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## The Chemical Bond in General Chemistry

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## THE INFLUENCE OF SALTS ON THE VELOCITY OF INVERSION OF SUCROSE AT 25°

J. N. PEARCE AND MARGARET THOMAS

The velocity of inversion of sucrose has been determined in the presence of salts of different ion-types at 25°. In the solutions used the concentrations of three components are definitely fixed, namely: sucrose 0.1 m., hydrochloric acid 1.0 m., and water 1000 grams. The salt concentration is the only variable. The salts used were LiCl, NaCl, KCl, BaCl<sub>2</sub> and Al(NO<sub>3</sub>)<sub>3</sub>. For equal molal concentrations of the different salts the velocity coefficients increase in the order: KCl < NaCl < LiCl < BaCl<sub>2</sub> < Al(NO<sub>3</sub>)<sub>3</sub>. The salt effect appears to be explained best on the basis of ionic hydration due to the attraction between the ions and the water dipoles. While it was not possible at the time to determine the activity of the solvent in the inversion solutions, the reaction velocity increases inversely and practically linearly with decrease in the activity of the solvent due to the salt alone.

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## THE CHEMICAL BOND IN GENERAL CHEMISTRY

BEN H. PETERSON

A Discussion of Application of Electro-Valent and Co-valent  
Types of Chemical Bond Adapted to Beginning Students.

DEPARTMENT OF CHEMISTRY,  
COE COLLEGE,  
CEDAR RAPIDS, IOWA.

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## THE THERMAL DECOMPOSITION OF HEXANE AT HIGH PRESSURES

J. N. PEARCE AND J. W. NEWSOME

The thermal decomposition of n-hexane has been studied at pressures between 14,000 and 15,000 lbs., at temperatures between 430° and 520°, and for heating periods varying from a few minutes to two hours.